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EXAMINER	
WOOD, JONATHAN K	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,283	MERABET ET AL.	
	Examiner	Art Unit	
	JONATHAN WOOD	4137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/27/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-18 are objected to because of the following informalities: Claim 1, line 2 recites 'capable of resting a sealed manner' which appears to be a typographical error of the term 'capable of resting in a sealed manner'. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 16 recites the limitation "the line" in line 6. There is insufficient antecedent basis for this limitation in the claim. It is suggested to amend to 'a line' or define 'the line' earlier in the claim.

5. Claim 17 recites the limitation "the discharge opening" in line 7. There is insufficient antecedent basis for this limitation in the claim. It is suggested to amend to 'a discharge opening' or define 'the discharge opening' earlier in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-6, 10-12 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,940,207 to *Katsuyama* (*Katsuyama*) in view of US Patent No. 3,348,543 to *Stafford* (*Stafford*).

In Reference to Claim 1

Katsuyama teaches:

> Valve comprising a body (hollow body 16) inside which a needle (valve shaft 4) capable of resting a sealed manner against a seat (valve seat 10) fixedly joined to the body (col. 7, ll. 41-42) is mobile (col. 11, ll. 1-3), the needle being coupled magnetically (col. 10, ll. 65-66), through a sealed and non-magnetic partition (cylindrical tube 18), to an actuating device (piston 7) equipped with several magnets (ring magnets 6) between which magnetic bodies are interposed (ring-like yokes 14)

Katsuyama fails to disclose:

> A valve characterized in that the needle does not have magnets.

Stafford teaches:

> A valve with a needle (valve member 50) which is controlled by a magnetic actuating device (collar 60) (col. 2, ll. 36-40), wherein the needle does not have magnets (col. 2, ll. 46-48 and 51-56).

Katsuyama discloses the claimed invention except for that the valve needle utilizes magnets instead of a magnetic material. *Stafford* shows that magnetic material is an equivalent structure to a permanent magnet when used to actuate a valve (col. 2, ll. 51-56). Therefore, because a magnet and magnetic material in the use of actuating a

valve were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute rings of magnetic material for the ring magnets 3 in the valve needle of *Katsuyama*.

In Reference to Claim 2

Katsuyama as modified by *Stafford* teaches:

> Valve according to claim 1 (see rejection of claim 1 above), characterized in that the needle is equipped with ribs formed from a magnetic material (the rings of magnetic material and ring-like yokes form alternating rib sections).

In Reference to Claim 3

Katsuyama as modified by *Stafford* teaches a valve according to claim 2 (see rejection of claim 2 above), wherein the thickness of the ribs of magnetic material is substantially equal to the thickness of the magnets (ring magnets 6). It would have been obvious to one having ordinary skill in the art at the time of the invention to have reversed the material of rings 3 with the material of ring-like yokes 11, thereby making the thickness of the magnetic material ribs substantially equal to the thickness of the magnetic bodies (ring-like yokes 14), since it has been held that a mere reversal of the essential working parts of a device involved only routine skill in the art. *In re Einstein, 8 USPQ 167*.

In Reference to Claim 4

Katsuyama as modified by *Stafford* teaches a valve according to either claim 2 (see rejection of claim 2 above), characterized in that the relative spacing of the ribs of

magnetic material is substantially equal to, or corresponds substantially to, a multiple or a sub-multiple of the relative spacing of the magnets (ring magnets 6). It would have been obvious to one having ordinary skill in the art at the time of the invention to have reversed the material of rings 3 with the material of ring-like yokes 11, thereby making the relative spacing of the magnetic material ribs substantially equal to a multiple or a sub-multiple of the relative spacing of the bodies (ring-like yokes 14), since it has been held that a mere reversal of the essential working parts of a device involved only routine skill in the art. *In re Einstein, 8 USPQ 167*.

In Reference to Claim 5

Katsuyama as modified by *Stafford* teaches:

> A valve according to claim 2 (see rejection of claim 2 above), characterized in that the ribs are unitary with the body of the needle (*Katsuyama*, Figure 1).

In Reference to Claim 6

Katsuyama as modified by *Stafford* teaches:

> A valve according to claim 2 (see rejection of claim 2 above), characterized in that the volume between two adjacent ribs is packed with a non-magnetic filling material (ring-like yokes 11).

In Reference to Claim 10

Katsuyama as modified by *Stafford* teaches:

A valve according to claim 1 (see rejection of claim 1 above), characterized in that the movements of the actuating device are controlled pneumatically (col. 10, ll. 59-64).

In Reference to Claim 11

Katsuyama as modified by *Stafford* teaches:

Valve according to claim 1 (see rejection of claim 1 above)

Katsuyama as modified by *Stafford* fails to disclose:

The actuating device being controlled mechanically.

Stafford further discloses:

A valve with magnetic coupling means where in the actuating device (collar 60) is controlled mechanically (col. 2, ll. 42-45).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have manufactured the valve of *Katsuyama* as modified by *Stafford* with the additional mechanical control means of the actuating device as taught by *Stafford* in order to provide a manual override to the valve system in the event of pneumatic system failure.

In Reference to Claim 12

Katsuyama as modified by *Stafford* teaches:

Valve according to claim 1 (see rejection of claim 1 above), characterized in that the sealed partition is cylindrical, the needle being located inside the partition while the actuating device is arranged around the partition (Katsuyama, Figure 1).

In Reference to Claim 16

Katsuyama as modified by *Stafford* teaches:

> Installation for projecting coating product, comprising at least one projector (hollow body 16 with cover 25) and at least one source of coating product (supply source, col. 9, line 49), characterized in that it comprises at least one valve according to claim 1 (see rejection of claim 1 above), located in the line (*Katsuyama*, Figure 1) for supplying coating product or cleaning product to the discharge opening (port 1A) of the projector.

In Reference to Claim 17

Katsuyama as modified by *Stafford* teaches:

> Installation according to claim 16 (see rejection of claim 16), characterized in that the valve is integrated in the projector (*Katsuyama*, Figure 1).

8. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Katsuyama* in view of *Stafford* as applied to claims 1 and 2 above, and further in view of US Patent No. 5,942,962 to *Gery* (*Gery*).

In Reference to Claims 7 and 8

Katsuyama as modified by *Stafford* teaches:

> A valve according to claim 2 (see rejection of claim 2 above), characterized in that the partition is flat overall (*Katsuyama*, Figure 1).

Katsuyama as modified by *Stafford* fails to disclose:

> A valve wherein the ribs and the bodies are provided with means for guiding the needle in translation, characterized in that the guide means include magnetic field concentration regions formed opposite one another, on the needle and on the device, respectively, by the creation of cavities in the opposing surfaces of the ribs and the bodies.

Gery teaches:

> A dipole magnetic structure which has two adjacent magnets (magnets 18 and 19) which are attracted to each other across a non-magnetic partition (wafer-containing portion 14), wherein the magnets have cavities (col. 3, ll. 14-18).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have to have manufactured the adjacently attracted magnetic bodies and ribs of *Katsuyama* as modified by *Stafford* with cavities like those of *Gery* in order to direct the flux emanating from the periphery back toward the center of the magnetic field (*Gery*, col. 3, ll. 25-35). The cavities serve to strengthen the attraction between two bodies and thus would serve as enhanced guide means for the needle in translation with the actuating device.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Katsuyama* in view of *Stafford* as applied to claim 1 above, and further in view of US Patent No. 4,520,961 to *Hueber* (*Hueber*).

Katsuyama as modified by *Stafford* teaches:

> A valve according to claim 1 (see rejection of claim 1 above).

Katsuyama as modified by *Stafford* fails to disclose:

> The valve having a needle that is covered with a layer of anti-corrosion material.

Hueber teaches:

> A valve needle (slide valve 45) of iron having an anti-corrosion coating (col. 8, ll. 3-5).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have manufactured the valve needle of *Katsuyama* as modified by *Stafford* with an anti-corrosion coating as taught by *Hueber* in order to protect the valve needle from corrosive liquids.

10. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Katsuyama* in view of *Stafford* as applied to claim 1 above, and further in view of US Patent No. 2,572,692 to *Bottum* (*Bottum*).

In Reference to Claim 13

Katsuyama as modified by *Stafford* teaches:

> Valve according to claim 1 (see rejection of claim 1 above).

Katsuyama as modified by *Stafford* fails to disclose:

> The valve having an element coupled magnetically to the actuating device located outside the body and mobile between two positions in which it indicates the open state and the closed state, respectively, of the valve.

Bottum teaches:

> A valve (valve, col. 1, line 3) which has an element (pointed indicating tips 64) located outside the body of the valve (U-bracket 40) and mobile between two positions of the valve ("high" and "low", col. 6, ll. 49-53).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have manufactured the valve of *Katsuyama* as modified by *Stafford* with the teaching of *Bottum* of utilizing a mobile indicating element outside the body of the valve in order to signal to the user the valve's operating status. When applying the teaching of *Bottum* to the valve of *Katsuyama* as modified by *Stafford*, the coupling means of the element to the body of the valve would require the use of the valve actuating means. In the case of *Bottum*, these means are a screw attachment. In *Katsuyama* as modified by *Stafford*, the valve actuating means involves the use of magnets, hence a magnetic coupling of the indicating element would be obvious. The use of specific indicator words such as "high" and "low" or "open" and "close" are replaceable equivalents of each other.

In Reference to Claim 14

Katsuyama as modified by *Stafford* and *Bottum* teaches:

> Valve according to claim 13 (see rejection of claim 13), characterized in that the body (hollow body 16) is provided with two marks (*Bottum*, "high" and "low", col. 6, ll. 49-53) corresponding to the closed state and the open state, respectively, of the valve (see above).

Katsuyama as modified by *Stafford* and *Bottum* fails to disclose:

The indicating element is capable of masking selectively one of the marks while leaving the other mark visible, or vice versa.

It would have been obvious to one having ordinary skill in the art at the time of the invention to have utilized a masking element instead of simply pointing tips for the indicating element since examiner takes Official Notice of the equivalence of the two for their use in the indicator art and the selection of any of these known equivalents to indicate the operating status of the valve would be within the level of ordinary skill in the art.

11. Claims 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Katsuyama* in view of *Stafford* and *Bottum* and as applied to claims 13 and 14 above, and further in view of US Patent No. 4,881,088 to *Fisher, Jr. et al*. (*Fisher*).

In Reference to Claims 15 and 18

Katsuyama as modified by *Stafford* and *Bottum* teaches:

Valve according to claim 13 (see rejection of claim 13 above).

Katsuyama as modified by *Stafford* and *Bottum* fails to disclose:

The valve having a sensor capable of detecting the movements of the element and of supplying to a monitoring system a signal representative of the open or closed state of the valve.

Fisher teaches:

A dispensing device which uses a sensor (sensor 46) to detect a magnet or magnet-attracting material coming into proximity to the sensor

and subsequently sending a signal to a monitoring system (alarm indicator 60) representative of the status of the device (col. 3, ll. 43-64).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have manufactured the valve of *Katsuyama* as modified by *Stafford* and *Bottum* with the sensor and corresponding monitoring system as taught by *Fisher* in order to update the user on the device's status. The status of the device in the case of the valve would be determining if it is open or closed. The sensor would be triggered by the indicating element on the exterior of the valve body since it is inherently a magnet attracting material.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent No. 4,635,901 to *Pond* discloses a similar indicator device as that recited in claims 13 and 14

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN WOOD whose telephone number is (571)270-7422. The examiner can normally be reached on Monday through Friday, 7:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Bomberg can be reached on (571)272-4922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JKW/
Examiner, Art Unit 4137

/Kenneth Bomberg/
Supervisory Patent Examiner, Art Unit 4137